



# Flora of North America

Myoporum (Scrophulariaceae)

Robert E. Preston

24 April 2012

## Notice About Flora of North America Provisional Publications

Preparation of each volume of the Flora of North America is a multi-year process involving dozens of authors and editors. To facilitate access to taxonomic treatments that meet specific editorial criteria but that otherwise might not appear in printed volumes for months or possibly years, the Flora of North America Association (FNAA) electronically publishes treatments. These “Provisional Publications” have been peer-reviewed and are formatted for eventual publication in print copy by Oxford University Press. Provisional Publications are versions of treatments that minimally meet the following editorial standards:

Any 03 level manuscript that has been

- 1) accepted and approved by the taxon editor as an official FNA submission;
- 2) initially tech-edited (i.e., has been formatted and edited by the volume technical editor);
- 3) through regional review, with regional review comments and any additional tech-editing comments addressed by the author and corrections made to the manuscript; and
- 4) reviewed once by the bibliographic editor;
- 5) approved by the author(s) and taxon editor for posting as a Provisional Publication.

Major corrections, additions, and other modifications are allowed to 03 version manuscripts, and significant changes are published as new versions become available. Provisional Publications at the 04 level (second bibliographic pass completed, reviews by nomenclature and reviewing editors completed, genus description checked for parallelism against other genera in the family) and 05 level (all major checks completed, treatment ready for indexing and application of styles) are closer to publication form.

Readers are encouraged to submit comments and corrections for Provisional Publications to the author(s) and taxon editor, especially comments concerning the geographic distributions of taxa. Contact information can be found at <http://floranorthamerica.org/review> under the appropriate volume. The header portion of each Provisional Publication contains the taxon name and manuscript version, book volume number, taxon editor surname, manuscript page number, and date when then the posted version was published provisionally.

All provisional publications are copyrighted by the Flora North America Association and are to be cited as follows:

Author, Date, Title (e.g. Genus name, Flora of North America, Provisional Publication), Publishing institution, Date of publication, URL, Date actually viewed.

Example: Whittemore, A. T. and E. McClintock. 2008. Pittosporaceae. Flora of North America, Provisional Publication. Flora of North America Association. September 14, 2007. [fna.huh.harvard.edu/files/Pittosporaceae.pdf](http://fna.huh.harvard.edu/files/Pittosporaceae.pdf). Accessed [date actually viewed].

Questions about FNA Provisional Publications may be directed to Ms. Heidi Schmidt, Managing Editor, Flora of North America Association, at [heidi.schmidt@mobot.org](mailto:heidi.schmidt@mobot.org).

7. MYOPORUM Solander ex G. Forster, Fl. Ins. Austr., 44. 1786 [Greek *myo*, to shut, and *poros*, hole, alluding to transparent spots on leaves closed with pellucid substance] I

Robert E. Preston

**Shrubs, trees;** stolons absent. **Stems** ascending to horizontal, glabrous. **Leaves** persistent, cauline, alternate or rarely opposite, fleshy or not, with embedded, translucent glands; stipular lines absent; petiole present [absent]; blade margins entire or toothed. **Inflorescences** axillary, in clusters [flowers solitary]; bracts absent. **Pedicels** present; bracteoles absent. **Flowers** bisexual; sepals 5, calyx radially to bilaterally symmetric, campanulate, lobes oblong; petals 5, corolla white [rarely pale purple], spotted with purple [orange-brown to yellow or unspotted], radially to bilaterally symmetric, campanulate, abaxial lobes 3, adaxial lobes 2, (lobes glabrous [pubescent] abaxially, variously pubescent adaxially); stamens 4--8, adnate to corolla, equal, filaments pubescent [glabrous], staminode 0; ovary [2--]4[--6]-locular, placentation apical; stigma capitate or with 2--5 minute lobes. **Capsules** symmetrical, [dry] to fleshy and drupelike, ovoid to globose. **Seeds** 1--4, white to pale brown, ovoid to oblong or ellipsoid, not winged.  $x = 18$ .

Species ca. 30 (3 in the flora): introduced, California; Indian Ocean Islands, Pacific Islands, Australia.

*Myoporum* species have been introduced for ground cover or hedges in coastal or low rainfall regions of many countries, especially *M. insulare* R. Brown, *M. laetum*, and *M. montanum* R. Brown. The gall-inducing thrip *Klambothrips myopori*, native to Australia, has recently been introduced to California and is causing substantial damage to *Myoporum* species used in landscaping (L. A. Mound and D. C. Morris 2007). The leaves and fruits of *M. laetum* and other *Myoporum* species are toxic to livestock; they contain ngaione, a furanoid sesquiterpene that causes photosensitization and liver damage (G. S. Richmond and E. L. Ghisalberti 1995; K. Parton and A. N. Bruere 2002).

1. Shrubs, prostrate; leaves narrowly oblanceolate, 2--4 cm; fruits white to pale brown ..... 3. *Myoporum parvifolium*
1. Shrubs or small trees, broadly spreading; leaves narrowly elliptic to lanceolate, 5--14 cm; fruits dark reddish purple.
  2. Leaves lanceolate, margins finely serrate distal to middle, glands conspicuous; flowers 2--4 per axil; anthers well-exserted from tube; immature fruits smooth ..... 1. *Myoporum laetum*
  2. Leaves narrowly elliptic, tapering proximally and distally, margins entire, glands inconspicuous; flowers 6--8 per axil; anthers slightly exerted from tube; immature fruits rugose ..... 2. *Myoporum acuminatum*

1. **Myoporum laetum** G. Forster, Fl. Ins. Austr., 44. 1786 \* Ngaio tree F I W

**Shrubs or small trees**, broadly spreading, 3--10 m. **Stems** ascending to horizontal, much-branched; twig tips and young leaves bronze green, sticky. **Leaves** bright green, lanceolate, 5--12.5 x 1.5--3 cm, margins finely serrate distal to middle, glands conspicuous. **Flowers** 2--4 per axil; corolla white with purple spots, tube 3.5--4.5 mm, lobes equal, 4--5.5 mm, densely long-hairy adaxially; anthers well-exserted from tube. **Capsules** pale to dark reddish purple, ovoid, 5--10 mm, immature fruit smooth. **Seeds** oblong, 3--3.5 mm.  $2n = 108$  (New Zealand).

Flowering (Jan--)Mar--Aug. Open areas in grasslands, scrub, riparian habitats, generally coastal; 0--500 m; introduced; Calif.; Pacific Islands (New Zealand); introduced also in s South America (Argentina, Uruguay).

*Myoporum laetum* is commonly cultivated in coastal areas of California. Although first collected outside of cultivation in 1949, it was not recognized as an introduced element of local and regional floras until the 1970s. The species has naturalized mostly in southern California to San Luis Obispo County with a few populations north along the coast to the San Francisco Bay area.

*Myoporum insulare* R. Brown, also introduced in cultivation to California, is similar to *M. laetum*, and some reports of *M. laetum* are possibly *M. insulare*. *Myoporum insulare* has leaves that are lighter green when young, and the translucent glands of the mature leaves are less conspicuous. The flowers are slightly smaller with anthers that are only slightly exerted from the tube, and the fruits are smaller and globose.

2. **Myoporum acuminatum** R. Brown, Prodr., 515. 1810 \* Waterbush I W

**Shrubs or small trees**, broadly spreading, 2--10 m. **Stems** ascending to horizontal, much-branched; twig tips and young leaves green to blackish, sticky. **Leaves** dark green, narrowly elliptic, (tapering proximally and distally), 5--14 x 1--3 cm, margins entire [obscurely serrate distal to middle], glands inconspicuous. **Flowers** 6--8 per axil; corolla white with purple spots on lobes and upper tube, tube 3--4 mm, lobes equal, 3--4.5 mm, long-hairy adaxially; anthers slightly exerted from tube. **Capsules** dark purple, ovoid, 4--7 mm, immature fruit rugose. **Seeds** ovoid-oblong, 2.2--2.5 mm.

Flowering Feb--May. Coastal sage scrub and chaparral; 0--100 m; introduced; Calif.; Australia.

Cultivated in coastal southern California, *Myoporum acuminatum* is established in nearby wildlands.

*Myoporum montanum* R. Brown, also introduced in cultivation to California, is similar to *M. acuminatum*, and some reports of *M. acuminatum* are possibly *M. montanum*. *Myoporum montanum* has narrower leaves (0.5--2 cm), anthers that are included in the tube, and the fruits are pink to light purple and smooth when immature.

3. **Myoporum parvifolium** R. Brown, Prodr., 516. 1810 \* Creeping myoporum I W

**Shrubs**, prostrate, less than 0.5 m. **Stems** horizontal, much-branched, (1.5 m, often rooting at nodes); twig tips and young leaves green, not sticky. **Leaves** green, narrowly oblanceolate, 2--4 x 0.5 cm, margins entire to sparsely serrate distal to middle, glands inconspicuous. **Flowers** 1--3 per axil; corolla white, purple-spotted at base of lobes, tube 2.5--3 mm, lobes equal, 3--4 mm, sparsely pubescent adaxially; anthers well-exserted. **Capsules** white to pale brown, globose, 5--7 mm, fleshy. **Seeds** ovoid to ellipsoid, 2 mm.

Flowering Apr--Oct. Vacant lots, open, mesic areas in chaparral; 100--300 m; introduced; Calif.; Australia.

*Myoporum parvifolium* is widely cultivated as a ground cover in the southwestern United States; it appears to be established in the urban canyons of southern California.